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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HAYES SOLOWAY P.C. 3450 E. SUNRISE DRIVE, SUITE 140 TUCSON, AZ 85718			EXAMINER LEONG, NATHAN T	
			ART UNIT 4172	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/509,140	Applicant(s) NIJMAN, HENRIKUS FRANCISCUS MARIA	
	Examiner NATHAN LEONG	Art Unit 4172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>04/04/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election Acknowledged

1. During a telephone conversation with Mr. Soloway on 3/6/2008 a provisional election was made with traverse to prosecute the invention of group I, which include claims 1-9 and 13-14. NOTE: After the oral election was made by Mr. Soloway on 3/6/2008, the case was transferred to a new examiner and an amendment was received on 3/24/2008 that added new claims 13 and 14. Claims 13 and 14 fall within the scope of the method claims of group I and thus will be included in the prosecution.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Election/Restrictions

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-9 and 13-14, drawn to method of treatment of green wood comprising immersing or spraying wood in a bifluoride solution for at least 3 minutes.

Group II, claim 10, drawn to equipment comprising an immersion vessel with an agitation and transporting means.

Group III, claim 11-12, drawn to wooden products comprising an outer layer with 15% moisture.

PCT:Lack of Unity

Posteriori

3. Lack of unity of invention may be may only become apparent “a posteriori,” that is, after taking the prior art into consideration, in the case of independent claims to A + X and A + Y, unity of invention(i.e. species) is present a posteriori as A is common to both claims.

4. The inventions listed as Groups I and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the special technical feature which is referred to Annex B of Appendix A1 of the MPEP(Administrative Instructions under the PCT, “Unity of Invention”). The express “special technical features” is defined as meaning those technical features that define a contribution which each of the inventions, considered as a whole, makes over the prior art.”(Rule 13.2). Unity exists only when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding claimed special technical features. In this case, the technical feature shared by each invention is the treatment of green wood.

The question of unity of invention has been reconsidered retroactively by the examiner in view of the search performed; a review of JP2003062814A (Takahashi et al), makes clear that the inventions of the groups I and III lack the same or corresponding special technical feature because the cited reference(s) appear to

demonstrate that the claimed technical feature does not define a contribution which each of the inventions, considered as a whole, makes over the prior art. This is because Takahashi et al teaches the common technical feature instead. Takahashi et al teaches this product formation (group III) by a different method than that of group I, namely, compression molding using a pressure vessel (see [0023] and drawing 11). Accordingly, the prior art of the record supports restriction of the claimed subject matter in to the groups as mentioned immediately above.

Priori

Lack of unity of invention may be directly evident “a priori,” that is, before considering the claims in relation to any prior art, for example, independent claims to A + X, A + Y, X + Y can be said to lack unity a priori as there is no subject matter common to all claims.

In the instant case, the inventions of Group I or III are drawn to the method for treatment of greenwood and the product made from this process, whereas the invention of group II is drawn to equipment that comprises an immersion vessel with agitation and transporting capabilities. Since there is no subject matter common to all groups, the restriction is proper for the reasons set forth above where lack of unity of invention is evident “a priori”.

Specification

5. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate correction is required.

Claim Objections

- 6. Claim 8 is objected to because of the following informalities: all occurrences of "weights" should be changed to "weight". In addition, the phrase "wherein there is applied" is confusing. Appropriate correction is required.
- 7. Claim 8 is objected to because of the following informalities: this method claim recites using a bifluoride solution *and* a bifluoride solution, where in claim 1, there is

only one aqueous solution. In addition, the claim language and wording of the sentence is confusing. The claim should be rewritten to more clearly reflect the specification (pg. 3, lines 28-32). Appropriate correction is required.

8. Claim 13 is objected to because of the following informalities: the compound "zinc bifluoride" is not a well known nor accepted name for the compound ZnF_2 . It is well known in the art that ZnF_2 has the common name "zinc fluoride". For purposes of examination, "zinc bifluoride" will be assumed to mean " ZnF_2 " or "zinc fluoride". Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 5, 6, 8, 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 5, 6, 8, 13 and 14 recite the limitation "the bifluoride solution". There is insufficient antecedent basis for this limitation in the claim: claim 1 does not mention any such "bifluoride solution". For the purposes of the examination, the term "bifluoride solution" will be assumed to mean the "aqueous solution" from claim 1.

11. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites using green wood *or* incompletely dry wood

according to the method of claim 1. However, claim 1 is recited as a method for treatment of green wood. Thus, since claim 7 includes incompletely dry wood, it fails to distinctly claim the subject matter which applicant regards as the invention. Appropriate correction is required.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 1, 2, 3, 4, 5, 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nijman NL 1004556C in view of Elder US 6345450 B1.

Claim 1 is drawn to a method for the treatment of green wood (defined as “tree-trunks of just felled trees, whether or not stripped of their bark or boards or beams sawed there from a short time after felling”) by immersing or spraying an aqueous solution of one or more bifluorides on the wood for at least 3 minutes. Claim 2 is drawn to the method of claim 1 where the wood is immersed on lath. Claim 3 is drawn to the

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method of claim 1 where the wood is sprayed on all sides. Claim 4 and 6 are drawn to having the bifluoride solution which contains one or more alkali bifluorides. Claim 5 is drawn to the method of claim 1 having a bifluoride solution of potassium and ammonium bifluoride in a weight ratio between 13:7 and 2:3. Claim 7 is drawn to the method of claim 1 where the wood is either green wood or incompletely dried wood. Claim 8 is drawn to specific weight concentrations of the bifluoride solution at a specified moisture content of wood.

Per claim 1, Dutch patent (NL1004556C) teaches treating wood using an aqueous solution of potassium bifluoride and ammonium bifluoride (see abstract) by immersing (see pg 5, line 11-14) for a period of time for 1-20 days (see claim 5). Per claim 2, it is cited in applicant's specification that NL1004556C teaches that wooden components can be placed on lath during the immersion in the solution (see pg 5 lines 26-27). Per claim 3, the NL'556C teaches spraying on wooden components to prevent gas from diffusing out of the wood (see pg 3, lines 10-15). It is obvious to one of ordinary skill in the art that all sides of the wood must be sprayed in order to prevent gas from diffusing out and for adequate treatment of any given wooden component. Per claim 4, NL'556C teaches using potassium bifluoride in the aqueous solution, which is an alkali bifluoride. Per claim 5, teaches using a bifluoride solution containing potassium and ammonium bifluoride which contains 65-40% potassium bifluoride and 35-60 wt% ammonium bifluoride, which equals a weight ratio between 13:7 and 2:3, as stated in applicant's specification (also see NL'556C abstract and claim 2). Per claim 6,

NL'556C teaches using a bifluoride solution containing potassium and ammonium bifluoride.

NL'556C fails to teach utilizing the treatment method on green wood (or wet wood). Green wood is defined by applicant as "trunks of just felled trees, whether or not stripped of their bark or boards or beams sawed there from a short time after felling". However, it would be obvious to one of ordinary skill in the art at the time of invention to try treatment processes on green wood because "as wood loses moisture, it begins to shrink and develop internal stresses which are relieved by the formation of cracks" (as taught in Elder US 6345450 B1). Thus it would be obvious to apply the treatment as early within the process as possible (before or along with the drying process step). NL'556C in view of Elder teaches all the limitations of claim 7.

Per claim 8, NL'556C teaches using preferably 8-32 weight % of the mixed bifluoride solution (see pg 4, line 24-26). It is obvious to one of ordinary skill in the art at the time of the invention to apply bifluoride solutions of varying weight percents that correlate to the moisture content of the wood on which it is applied. Thus, for a higher wood moisture content, a higher weight percent of bifluoride in bifluoride solution would have been selected in order to result in optimum outcomes.

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nijman NL 1004556C in view of Elder US 6345450 B1, as applied to claims 1-8 above, and further in view of Vinden et al US 6235403 B1.

Claim 9 is drawn to the method of claim 1 where the wood is stacked on a transport container and immersed on all sides in the bifluoride solution.

NL'556C in view of Elder teaches treatment of greenwood by immersing or spraying a bifluoride solution onto the wood for at least 3 minutes. NL'556C in view of Elder fails to teach using a transport container to stack the wood, then immersing it in said bifluoride solution.

Per claim 9, Vinden teaches using a treatment vessel to place the wood within, and subsequently immerse the vessel and wood in solution (see col. 7 lines 1-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the treatment vessel taught by Vinden and use it in the treatment method taught by NL'556C in view of Elder. One would have motivation to combine the treatment vessel with the treatment process because, as discussed in Vinden et al (col. 7, lines 15-20), a treatment vessel or container would allow the wood to undergo a secondary treatment method at the same time, such as, for example, varying the temperature or pressure.

16. Claim 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nijman NL 1004556C in view of Elder US 6345450 B1, as applied to claims 1-8 above, and further in view of Goettsche et al US 4871473.

Claim 13 is drawn to the method of claim 1 where the bifluoride solution contains zinc bifluoride. Claim 14 is drawn to the method of claim 1 where the bifluoride solution contains at least one metal salt.

NL'556C in view of Elder teaches treatment of greenwood by immersing or spraying a bifluoride solution onto the wood for at least 3 minutes, as discussed above. NL'556C in view of Elder fails to teach using zinc bifluoride in solution.

Per claim 13, Goettsche teaches using zinc compounds, such as zinc fluoride, in the treatment of wood (col. 1, lines 44-47). Thus, it would be obvious to one of ordinary skill in the art at the time of the invention to use zinc fluoride within the bifluoride solution taught by NL'556C in view of Elder for the treatment of wood. One would have motivation to use zinc fluoride in the treatment process because it is well known in the art that using zinc compounds has positive effects on the process of treating and protecting wood (see Goettsche et al). Per claim 14, since zinc fluoride is considered a metallic salt, all the limitations of the claim have been met.

Conclusion

17. A restriction has been made, and an oral election to prosecute group I (claims 1-9 and 13-14) was made by attorney. Claims 10-12 are withheld from examination.

18. Claims 1-9 and 13-14 are rejected. No claims are allowed.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN LEONG whose telephone number is (571)270-5352. The examiner can normally be reached on Monday to Friday, 7:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NATHAN LEONG/
Examiner, Art Unit 4172

/Vickie Kim/
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